

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Catherine M. McCarty on 8-7-06.

The application has been amended as follows:

Claim 1: The last line, delete the sentence: "**when A represents thiophene, then R¹ is not 4-pyridinyl or 3-pyrazolyl.**" This is an extraneous proviso.

Claim 21: The first two lines, delete "**or a disease with an inflammatory component**", and insert the phrase – selecting from the group consisting of asthma, rheumatoid arthritis, multiple sclerosis, chronic obstructive pulmonary disease, and rhinitis – in its place.

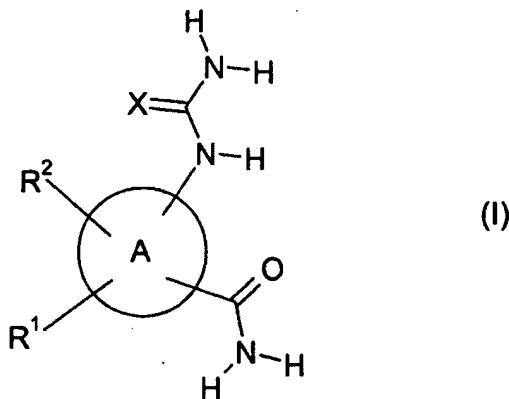
Cancel claims 20, 22-25 and 29.

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously presented) A compound of formula (I)



A represents thiophene;

R¹ represents a phenyl group; said phenyl being optionally substituted by one or more substituents selected independently from halogen, cyano, nitro, -NR³R⁴, -CONR⁵R⁶, -COOR⁷, -NR⁸COR⁹, -SR¹⁰, -S(O)_mR¹⁰, -S(O)₂NR⁵R⁶, -NR⁸SO₂R¹⁰, C₁-C₆ alkyl, trifluoromethyl, -(CH₂)_nR¹¹, -O(CH₂)_nR¹¹ or -OR¹²;

R² represents hydrogen, halogen, cyano, nitro, -NR¹³R¹⁴, -CONR¹⁵R¹⁶, -COOR¹⁷, -NR¹⁸COR¹⁹, -S(O)_mR²⁰, -S(O)₂NR¹⁵R¹⁶, -NR¹⁸SO₂R²⁰, C₁-C₂ alkyl, trifluoromethyl, C₂-C₃ alkenyl, C₂-C₃ alkynyl, trifluoromethoxy, C₁-C₂ alkoxy or C₁-C₂ alkanoyl;

X represents oxygen or sulfur;

each of R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰ and R¹² independently represent a hydrogen atom or C₁-C₆ alkyl;

R¹¹ represents NR²¹R²² where R²¹ and R²² are independently hydrogen or C₁-C₆ alkyl optionally substituted by C₁-C₄ alkoxy; or R²¹ and R²² together with the nitrogen atom to which they are attached form a 5- or 6-membered saturated ring optionally containing a further O, S or NR²³ group where R²³ is hydrogen or C₁-C₆ alkyl; or R¹¹ represents OR²⁴ where R²⁴ represents C₁-C₆ alkyl;

each of R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹ and R²⁰ independently represent a hydrogen atom or C₁-C₂ alkyl;

m represents an integer 0, 1 or 2;

n represents an integer 2, 3 or 4;

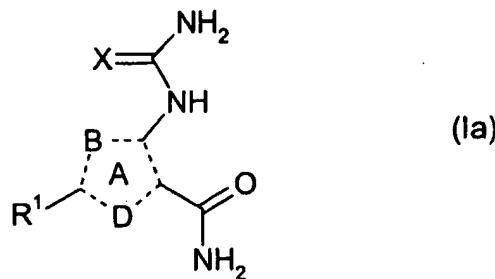
and optical isomers, racemates, and tautomers thereof and pharmaceutically acceptable salts or solvates thereof:

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provided that:

[when A represents thiophene, then R¹ is not 4-pyridinyl or 3-pyrazolyl.]

2. (Original) A compound of formula (I), according to Claim 1, wherein X represents oxygen.

3. (Previously presented) A compound of formula (I), according to Claim 1, in which the group A is substituted as shown below in formula (Ia), where B and D are selected from CR² and S, where R² is as defined in Claim 1 and R²⁵ is hydrogen or C₁-C₆ alkyl:



4. (Cancelled)
5. (Cancelled)
6. (Previously presented) A compound according to claim 1 in which R² represents H or methyl.
7. (Original) A compound according to Claim 6 in which R² represents H.
8. (Original) A compound of formula (I), according to claim 1, selected from:
3-[(aminocarbonyl)amino]-5-phenyl-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-(3-chlorophenyl)-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-(4-fluorophenyl)-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-(4-chlorophenyl)-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-(4-isobutylphenyl)-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-(4-methoxyphenyl)-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-(3-hydroxyphenyl)-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-(2-chlorophenyl)-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-(2-methoxyphenyl)-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{2-[2-(dimethylamino)ethoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{4-[2-(dimethylamino)ethoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-(3-methoxyphenyl)-2-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-5-phenyl-3-thiophenecarboxamide;

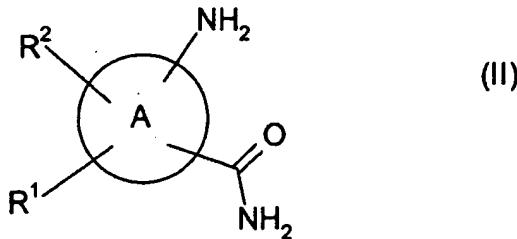
3-[(aminocarbonyl)amino]-5-{4-[2-(1-morpholinyl)ethoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{4-[2-(1-pyrrolidinyl)ethoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{4-[2-(1-piperidinyl)ethoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{4-[3-(dimethylamino)propoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{3-[2-(dimethylamino)ethoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{3-[2-(1-morpholinyl)ethoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{3-[2-(1-pyrrolidinyl)ethoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{3-[2-(1-piperidinyl)ethoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{3-[3-(dimethylamino)propoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{2-[2-(1-morpholinyl)ethoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{2-[2-(1-pyrrolidinyl)ethoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{2-[2-(1-piperidinyl)ethoxy]phenyl}-2-thiophenecarboxamide;
3-[(aminocarbonyl)amino]-5-{2-[3-(dimethylamino)propoxy]phenyl}-2-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(4-chlorophenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(4-methylphenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-ethyl-5-phenyl-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(4-methoxyphenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(4-fluorophenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(3-fluorophenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(3-methoxyphenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(3-chloro-4-methoxyphenyl)-3-thiophenecarboxamide;

2-[(aminocarbonyl)amino]-4-methyl-5-(2-chlorophenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(3-trifluoromethylphenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(3-methyl-4-methoxyphenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(3,5-dimethoxyphenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(2,3-dimethoxyphenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(4-isopropylphenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(3,4,5-trimethoxyphenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(3,4-dichlorophenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(4-cyanophenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(4-hydroxyphenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(4-[2-(1-piperidinyl)ethoxy]phenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-(4-[2-(diethylamino)ethoxy]phenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-trifluoromethyl-5-phenyl-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-4-methyl-5-phenyl-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-5-(4-cyanophenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-5-(4-trifluoromethylphenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-5-(2,4-difluorophenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-5-(4-hydroxyphenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-5-(4-chlorophenyl)-3-thiophenecarboxamide;

2-[(aminocarbonyl)amino]-5-(4-methanesulphonylphenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-5-(4-[2-(1-piperidinyl)ethoxy]phenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-5-(4-[2-(1-(2,2,6,6-tetramethyl)piperidinyl)ethoxy]phenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-5-(4-(thiazol-4-yl-methoxy)phenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-5-(4-[2-(dimethylamino)ethoxy]phenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-5-(4-[2-(diethylamino)ethoxy]phenyl)-3-thiophenecarboxamide;
2-[(aminocarbonyl)amino]-5-(4-[2-(1-morpholinyl)ethoxy]phenyl)-3-thiophenecarboxamide;
2-[(aminothiocarbonyl)amino]-5-phenyl-3-thiophenecarboxamide;
and pharmaceutically acceptable salts and solvates thereof.

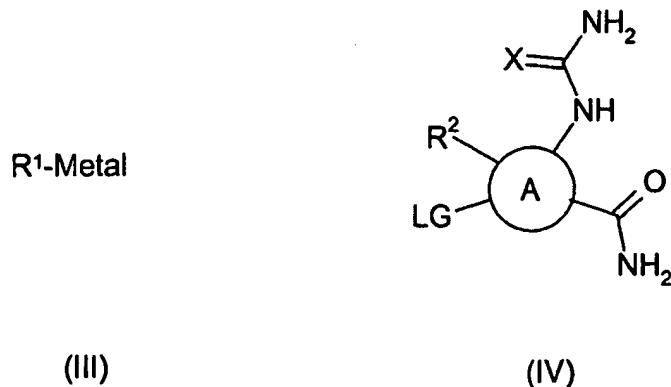
9. (Previously presented) A process for the preparation of a first compound of formula (I), according to claim 1, which comprises:

(a) reaction of a compound of formula (II):



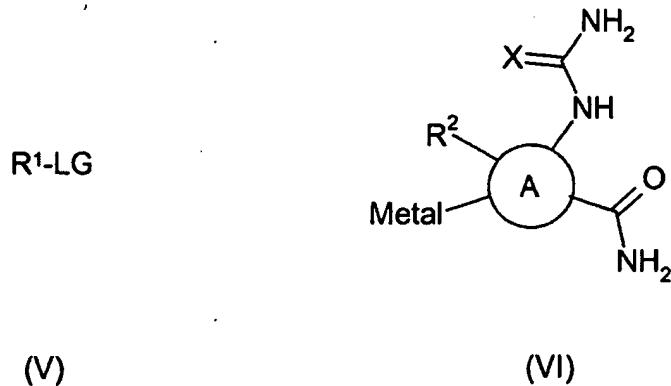
wherein A, R¹ and R² are as defined in Claim 1, with an isocyanate (X = O) or an isothiocyanate (X = S), to produce the first compound of formula (I); or

(b) reaction of compound of formula (III) with a compound of formula (IV)



wherein A, X, R¹ and R² are as defined in Claim 1, and LG represents a leaving group, to produce the first compound of formula (I); or

(c) reaction of compound of formula (V) with a compound of formula (VI)



wherein A, X, R¹ and R² are as defined in Claim 1, and LG represents a leaving group, to produce the first compound of formula (I).

10. (Previously presented) A pharmaceutical composition comprising a compound of formula (I), or a pharmaceutically acceptable salt or solvate thereof, as claimed in claim 1, in association with a pharmaceutically acceptable adjuvant, diluent or carrier.

11. (Previously presented) A process for the preparation of a pharmaceutical composition which comprises mixing a compound of formula (I), or a pharmaceutically acceptable salt or

solvate thereof, as claimed in claim 1 with a pharmaceutically acceptable adjuvant, diluent or carrier.

12-19. (Cancelled)

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20. (Previously presented) A method of treating an IKK2 mediated disease which comprises administering to a patient a therapeutically effective amount of a compound of formula (I), or a pharmaceutically acceptable salt or solvate thereof, as claimed in claim 1.

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21. (Previously presented) A method of treating an inflammatory disease, or a disease with an inflammatory component, in a patient suffering from, or at risk of, said disease, which comprises administering to the patient a therapeutically effective amount of a compound of formula (I), or a pharmaceutically acceptable salt or solvate thereof, as claimed in claim 1. *selecting from the group consisting of asthma, rheumatoid arthritis, multiple sclerosis, chronic obstructive pulmonary disease, and rhinitis,*

22. (Original) A method according to claim 21, wherein the disease is asthma.

23. (Original) A method according to claim 21, wherein the disease is rheumatoid arthritis.

24. (Original) A method according to claim 21, wherein the disease is multiple sclerosis.

25. (Original) A method according to claim 21, wherein the disease is chronic obstructive pulmonary disease.

26. (Previously presented) A pharmaceutical composition comprising a compound of formula (I), or a pharmaceutically acceptable salt or solvate thereof, as claimed in claim 8, in association with a pharmaceutically acceptable adjuvant, diluent or carrier.

27. (Previously presented) A process of claim 9, further comprising converting the first compound of formula (I), or a salt thereof, into a pharmaceutically acceptable salt thereof; or converting the first compound of formula (I) into a second compound of formula (I).

28. (Previously presented) A process of claim 9, further comprising converting the first compound of formula (I) into an optical isomer thereof.

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29. ~~(Previously presented) A method of claim 21, wherein the disease is rhinitis.~~